Supplemental Material 2: Search terms

Databases (Embase, PubMed, Medline, Cochrane, Scopus and Web of Science) were searched for papers published from inception to 31 January 2020 using free text keywords related to our review questions. Additional articles were identified through citation searches of relevant articles and reviews.

Search terms used were:

(Acute Kidney Injury or Acute Renal Failure or Renal or AKI)

and

(Decision Support or health information exchange or hospital information system or EHR or EPR or electronic or computer* or CPOE or Surveillance or Monitoring or Detection or Management or Prevention or Prescribing or Treatment or Alert* or predictive analy* or predictive model* or machine learning or care process models or resource utilisation or clinical workflow or referral tracking or hospital service or care models or intervention).

Supplemental Material 3: Summary of the 43 studies included in the scoping review

Table S1: Summary of 43 studies included in the scoping review

Surname *et al* Country^citation number	**Population & Setting**	**Intervention**
Aiyegbusi et al UK (Scotland) (2018)[1]	All primary care in NHS Tayside region	AKI identified in primary care (PC-AKI) through AKI e-alerts
Al-Jaghbeer et al USA (2018)[2]	14 hospitals in a health care system	Clinical decision support system in hospital
Awdishu et al USA (2016)[3]	Tertiary healthcare hospital and ambulatory care system	Clinical decision support tool developed for 20 nephrotoxic medications
Bhardwaja et al USA (2011)[4]	Single large integrated health care delivery system (Kaiser Permanente Colorado)	Use of pharmacy alert system to reduce medication errors in renal insufficiency
Chandrasekar et al UK (2017)[5]	Acute hospital admissions	Whole system quality improvement approach
Chertow et al USA (2001)[6]	Urban tertiary care teaching hospital	Computerised decision support for prescribing in patients with renal insufficiency
Cho et al Republic of	Teaching hospital	Computer alert for risk of contrast-induced AKI and recommendation for

Surname *et al* Country^citation number	**Population & Setting**	**Intervention**
Korea (2012)[7]		prophylaxis
Choi et al Republic of Korea (2019)[8]	Hospital patients with eGFR less than 50	Designated pharmacist in addition to computerised alerts
Colpaert et al Belgium (2012)[9]	Tertiary Hospital	Introduction of real-time electronic alert system to improve management and severity of AKI
Connell et al UK (2019)[10]	A large hospital	A digitally enabled care pathway comprising automated AKI detection, mobile clinician notification, in-app triage, and a protocolised specialist clinical response.
Connell et al UK (2019)[11]	ED departments in single tertiary hospital (intervention) vs single district hospital (control)	Multicomponent intervention (alert system, AKI response team and care protocol) to improve the outcomes from AKI
Connell et al UK (2019)[12]	Tertiary care hospital	Mobile results viewing in a digitally enabled care pathway
Desmedt et al Belgium (2018)[13]	Academic hospital (non-ED or ICU patients)	Computerised decision support for dosing adjustments for 85 drugs
Díaz et al Spain (2013)[14]	Teaching hospital	A system for drug dosage adjustment integrated into the hospital computer provider order entry system
Evans et al USA (1999)[15]	Tertiary care centre	Computer-assisted antibiotic dose monitor
Galanter et al USA (2005)[16]	Single teaching hospital	Automated alerts designed to reduce the use of contraindicated drugs in patients with renal insufficiency
Goldstein et al USA (2013)[17]	Single quaternary paediatric hospital	Pharmacist screen for nephrotoxic load and recommendations for serum creatinine testing made
Goldstein et al USA (2016)[18]	Children noncritical care unit	Pharmacist recommended monitoring and dosing after electronic trigger
Heringa et al Netherland (2017)[19]	Community pharmacies	CDSS with optional point of care testing
Hodgson et al UK (2018)[20]	2 non-specialist hospitals	Electronic clinical prediction rule combined with an AKI e-alert

Surname *et al* Country^citation number	**Population & Setting**	**Intervention**
Kolhe et al UK (2015)[21]	Tertiary care centre	A care bundle with interruptive alert
Kolhe et al UK (2016)[22]	Single teaching hospital	AKI care bundle with interruptive alert
Kothari et al USA (2018)[23]	8 New York hospitals	Daily laboratory alerting of patients at risk for AKI
Leung et al USA (2013)[24]	5 Community Hospitals	Comparison of different intensities of clinical decision support within EHR computer order physician entry
Matsumura et al Japan (2009)[25]	Single hospital	Development of EHR e-alert system for evaluating renal function and checking doses of medication according to the patient's renal function
McCoy et al USA (2010)[26]	Academic tertiary care hospital	Computerised order entry alerts: passive alert for increasing creatinine and interruptive alert for medication adjustment
Nash et al USA (2005)[27]	Teaching hospital	An automated system to complement an existing computerized order entry system by detecting the administration of excessive doses of medication
Park et al Korea (2018)[28]	Tertiary teaching hospital	AKI alert system that provides option for automated consultation requests to the nephrology division
Porter et al UK (2014)[29]	Teaching hospital	Real-time alert to detect AKI
Ralph et al USA (2014)[30]	Tertiary hospital	Pharmacist-run CDSS alert based on early serum creatinine
Rind et al USA (1994)[31]	Teaching hospital	Computer-based alerts for hospitalised patients
Roberts et al Australia (2010)[32]	Teaching hospital	CDSS in an environment independent of computerised provider order entry introduced to prescribers via academic detailing
Selby et al UK (2019)[33]	5 hospitals	Multi-faceted intervention programme (AKI e-alerts, an AKI care

Surname *et al* Country^citation number	**Population & Setting**	**Intervention**
		bundle, and an education program) to improve outcomes associated with AKI
Sellier et al France (2009)[34]	2 departments in a teaching hospital	Alert at time of ordering medication in computerised provider order entry system to decrease inappropriate prescriptions
Sykes et al UK (2018)[35]	Single teaching hospital	Whole system approach quality improvement to reduce AKI and its impact (e-learning package, AKI bundle, enhanced pharmacy medicines reconciliation, QI nurses, safety huddles, supporting literature, champions)
Thomas et al UK (2015)[36]	2 acute hospitals and a community service	AKI outreach service
Tollitt et al UK (2018)[37]	46 primary care practices	AKI e-alert and AKI educational outreach sessions
Van Driest et al USA (2020)[38]	Teaching hospital	Implementation of AKI risk alerts to promote increased uptake of serum creatinine screening of patients
Vogel et al USA (2016)[39]	Integrated health care delivery system (Kaiser Permanente Colorado)	Pharmacy and physician facing e-alert system linked to prescribing
West Midlands Acute Medicine Collaborative et al UK (2019)[40]	Acute medical units in 14 hospital sites	UK National Health Service AKI e-alert system
Wilson et al USA (2015)[41]	Tertiary Hospital	Use of automated e-alert to reduce severity of AKI injury and improve outcomes
Wong et al USA (2017)[42]	Urban tertiary care hospital ICU	Computerised decision support including to support safe drug use in renal insufficiency
Wu et al China (2018)[43]	Hospital ICUs and high-risk cardiovascular wards	AKI e-alert on high-risk wards

AKI, acute kidney injury; PC-AKI, primary care acute kidney injury; GFR, glomerular filtration rate; ED, emergency department; ICU, intensive care unit; EHR, electronic health

Surname *et al* Country^citation number	**Population & Setting**	**Intervention**

system; CDSS, clinical decision support system.

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